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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,584	10/20/2003	Jianwei Liu	146712004700	2455

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EXAMINER
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RESAN, STEVAN A

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/687,584	<b>Applicant(s)</b> LIU ET AL.	
	<b>Examiner</b> Stevan A. Resan	<b>Art Unit</b> 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1-20-2004</u> . | 6) <input type="checkbox"/> Other: ____  |

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1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-10, 20 drawn to methods, classified in class 427, subclass 508+.
  - II. Claims 11-19, drawn to an article, classified in class 428, subclass 694TF.
2. The inventions are distinct, each from the other because:
3. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by exposing the base layer coated with the additive to other forms of activating electromagnetic radiation such as electrons. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Raj Dave on 26 October 2004 a provisional election was made with traverse to prosecute the invention of II, claims 11-19. Applicant in replying to this Office action must make affirmation of this election. Claims 1-10 and 20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
5. The use of the trademark ZTETROL has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology. It appears that Z-DOL e.g. [0050] and X-1P are also improperly designated.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 15 and 16 recite the limitation "both ends of the formula". There is insufficient antecedent basis for this limitation in the claim or claim 11 from which they depend. There is no "formula" recited nor is there a basis limiting the molecule to one having two "ends" e.g. a linear molecule.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 11 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakakawaji et al US 5,820,964. See embodiment 3.

12. Claims 11,13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ng US 5128216 in view of Yanagisawa US 4849305 and Falcone et al US 6080486.

Ng discloses a recording media comprising a base layer of carbon and a lubricant film that may comprise a lubricant and an additive layer bonded to the carbon base layer (which may have a thickness greater than 1 Angstrom). See Col 11 lines 19-57; Col 12 line 67- Col 13 line 13. A majority of the binding sites would be bonded to the additive molecules of the structure (Col 2 line 14) as in claim 13.

Ng does not supply details of the “another lubricant” which may overcoat that of the amphiphilic compound other than that it may be a compatible fluorocarbon oil.

Yanagisawa similarly teaches an adhesion promoting layer that is deposited on a carbon protective layer of a recording medium. The adhesion-promoting layer of Yanagisawa is also overcoated by a lubricant (Col 4 lines 47-Col 5 line 12). The

lubricants taught by Yanagisawa are art recognized equivalents of the "fluorocarbon oils" exemplified by Ng and meet the limitations of claims 15-17. See Example 1.

Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency.

*In re Fount* 213 USPQ 532 (CCPA 1982); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. v. Linde Air Products Co.* 85 USPQ 328 (USSC 1950).

Neither Ng nor Yanagisawa teach that the lubricants should be narrow molecular weight fractions as in Claim 19. However Falcone et al teach the desirability of using Mw/Mn ratios of less than 1.2 (termed polydispersity ratios see Col 7 lines 3-9). Therefore it would have been obvious to one of ordinary skill in the art to employ two layers as the lubricant layer as disclosed in both Ng and Yanagisawa varying the properties of each layer to balance tribology and durability to optimize performance of the media.

Claims 14 and 18 have been given no weight. Process limitations carry no weight in article claims unless they can be shown to produce a patentably distinct article. While claim 14 is a limitation showing an improvement in surface mobility due to the process limitation it does not demonstrate that the article is patentably distinct from that of Ng or Yanagisawa.

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225

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USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 11-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,673,429; claims 1-18 of U.S. Patent No 6,686,019; and claims 1-5 of U.S. Patent No. 6,753,060 individually or collectively.

The subject matter of each of the cited patents is essentially the same as that of the present claims since the structure of the media upon which the claims are based in each patent is the same and therefore the same properties would be expected to result. (X-1P + ZDOL + UV).

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Perrettie et al is cited for teaching that a composition of ZDOL and X-1P exhibits incompatibility.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stevan A. Resan whose telephone number is 571-272-1513. The examiner can normally be reached on Tues-Thurs from 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones, can be reached at 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
STEVAN A. RESAN  
PRIMARY EXAMINER